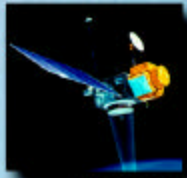


Building a Sustained Ocean Observing System for Climate



Altimeter and Scatterometer



3^D x 3^D Argo Float Array



Research Ships



Research Ships



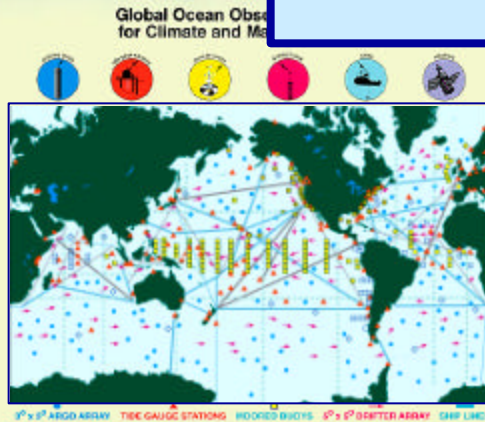
5^D x 5^D Drifting Buoy Array



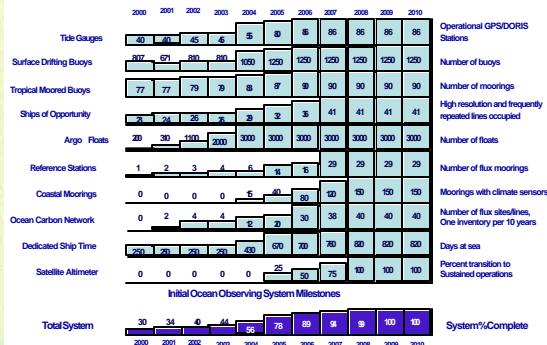
Moored Arrays



Tide Gauge Stations



Phased Implementation Plan, Including International Contributions



NOAA's Climate Observation Program The Ocean Component

Mission: Build and sustain a global climate observing system that will respond to the long-term observational requirements of the *operational forecast centers, international research programs, and major scientific assessments.*

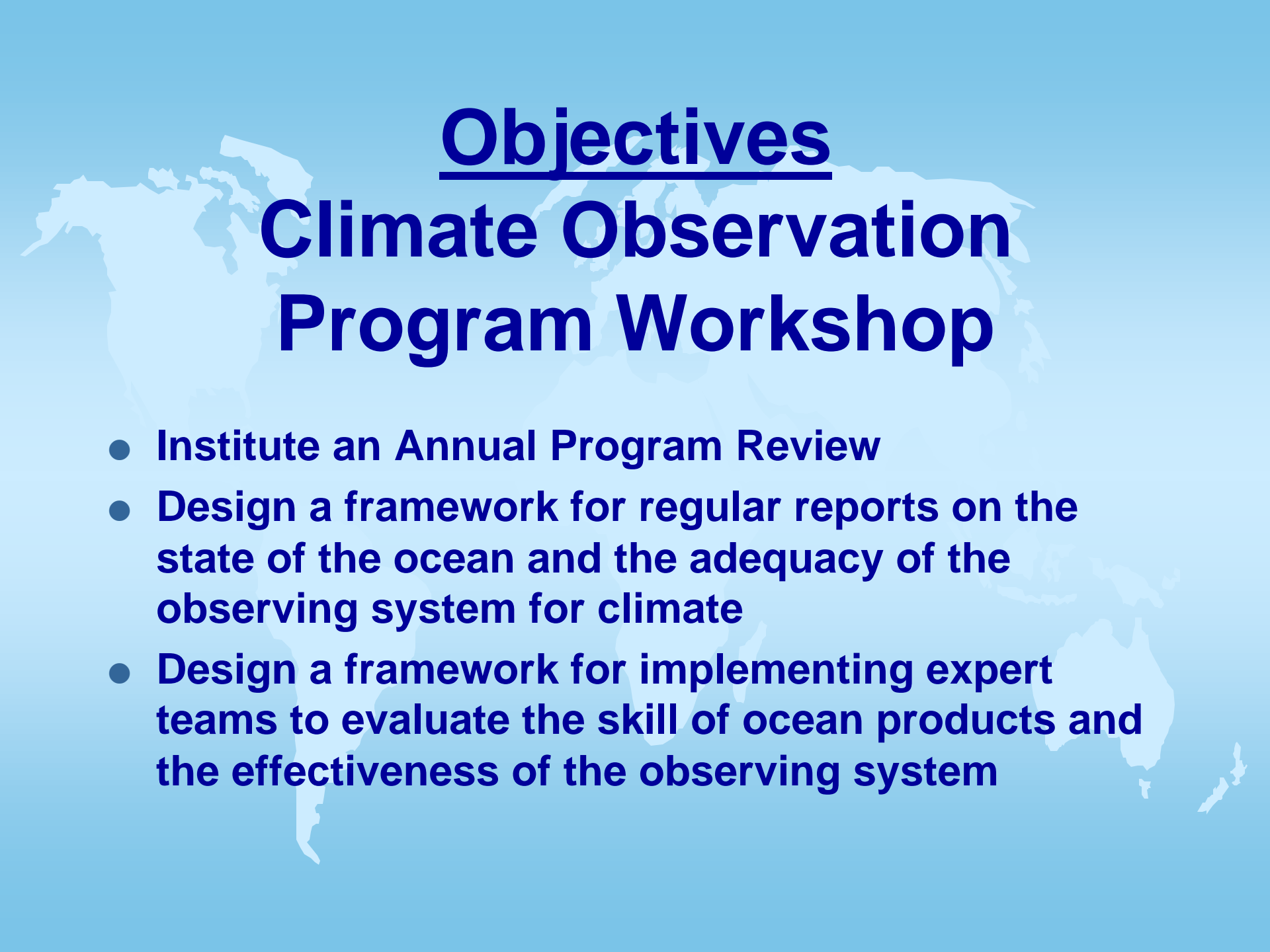
climate.observation@noaa.gov



THE NEED FOR A SYSTEMS APPROACH TO CLIMATE OBSERVATIONS

Trenberth, Karl, and Spence

- In addition to acquiring new observations, essential infrastructure has to be established to ensure:
 - Integrity and continuity
 - Analysis into products
 - Assessment of why climate anomalies have arisen
 - Links to modeling and research
 - Clear delineated responsibility for oversight and health of the system, and resources to build and sustain under the 10 principles

A faint, light blue world map is visible in the background of the slide, centered behind the text.

Objectives

Climate Observation Program Workshop

- **Institute an Annual Program Review**
- **Design a framework for regular reports on the state of the ocean and the adequacy of the observing system for climate**
- **Design a framework for implementing expert teams to evaluate the skill of ocean products and the effectiveness of the observing system**

Annual Program Review

- PI meeting
- Status and Accomplishments -- Posters
- Requirements/adequacy -- Presentations
 - Customers -- forecast, assessment, research
 - Regular user feedback = “user-driven” system
- “Partnerships are central”
 - Intra-Program
 - System -- *in situ*, satellite, data, modeling
 - Internal-External
- Strategic/tactical program planning
- External review

Regular reports on the state of the ocean and the adequacy of the observing system for climate

- **Inform**
 - Ourselves
 - Our Customers
 - Our Partners
 - Public
- **Organizing framework for Program direction**
 - System effectiveness, efficiency, evolution
- **System Approach**
 - “Essential infrastructure has to be established”
- **NOAA contribution to CCSP, Ocean.US, etc.**

Design a Framework for Implementing Expert Teams

- **Continually evaluate:**
 - The effectiveness of the networks in meeting the performance measures
 - The skill of ocean products
- **Recommend:**
 - Product improvements
 - Where additional sampling is needed or redundancies are not needed
 - Better utilization of existing and new *in situ* and satellite data
- **Assess the impacts of proposed changes to the system**

Agenda

- **Session 1 -- Partnerships and Requirements**
- **Session 2 -- Annual Report**
- **Poster Session -- continuous**
- **Session 3 -- Expert Teams and the Annual Report**
 - Working Group 1: Report structure
 - Working Group 2: Sea level
 - Working Group 3: Air-sea exchange of heat, water, carbon
 - Working Group 4: Ocean content and transport of heat, water, carbon
- **Session 4 -- Putting it together**
- **Session 5 -- Program and Budget**

Climate Observation Program Workshop

Focus on the Ocean

Session 1 -- Partnerships and Requirements

Chair: Peter Niiler

